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# DOE picks nine clean coal demonstration projects

WASHINGTON, DC—Nine projects were selected by the Department of Energy in July to receive federal funds to demonstrate "clean coal" technologies.

Sponsors of the demonstrations are American Electric Power Service Corp., Babcock & Wilcox, Coal Tech. Corp., Energy and Environmental Research Corp., Energy International, Inc., General Electric Co., Ohio Ontario Clean Fuels, Inc., The M.W. Kellogg Co., and Weirton Steel Corporation.

The projects cover a variety of market applications, including utility power generation, industrial processing, steelmaking and fuel production.

If agreements are reached between all nine and DOE, the projects will share $360 million in federal funds while contributing almost $600 million in total private financing.

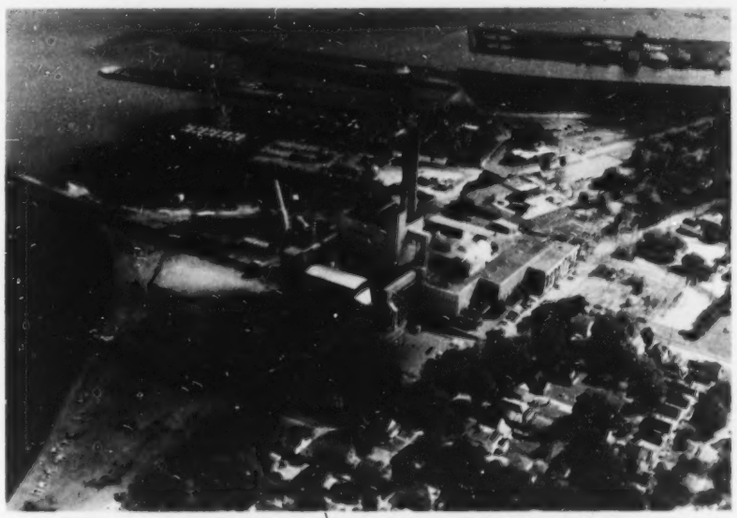
### Likelihood of success

DOE said the projects were picked from a total of 51 proposals because "they offered the greatest likelihood of successfully demonstrating and subsequently commercializing emerging clean coal technologies."

According to the agency, the first facilities to use the technologies under DOE's program could be built and in operation within several months after cooperative agreements with the government are signed. Many of the larger projects will not be ready for testing until the early 1990s, said DOE.

Congress earmarked $400 million for the program when it was enacted in Dec. 1985.

Specific project costs will not be announced, said DOE, until actual agreements are negotiated and signed. If an agreement is not awarded to any of the applicants, additional projects will be selected from a second group of 14 proposals.



The Department of Energy recently named nine projects to receive federal money to demonstrate "clean coal" technologies. One of the projects will be demonstrated here at Ohio Edison's Edgewater Plant in Lorain, Ohio. Sponsored by Babcock & Wilcox, the two-part project will develop retrofit acid rain precursor control technologies.

### Project details

Selected projects and their sponsors are:

*** American Electric Power Service Corp.**

AEPSC, on behalf of Ohio Power Co., will build and operate a 70 MW pressurized fluidized bed combustion combined cycle demonstration plant in Brilliant, Ohio. The project will use technology developed by ASEA-PFB. The demonstration plant will be a retrofit of a mothballed coal-fired power plant and will utilize the existing steam turbine and other site utilities.

*** Babcock & Wilcox**

The company is sponsoring a two-part project that will develop retrofit acid rain precursor control technologies. The first part is an extension of a current full-scale demonstration of Limestone Injection Multistage Burner technology on a 105-MWe wall-fired utility boiler at Ohio Edison's Edgewater Station in Lorain, Ohio. Project objectives are to demonstrate nitrogen oxide and sulfur dioxide emissions reductions on the order of 50-60 percent at a capital cost at least $100 per kilowatt (kW) less than wet scrubbers. The second part of the project will evaluate the Conoco "Coolside" process for sulfur dioxide control. The process involves dry sorbent injection/humidification technology downstream of the boiler. The demonstration will also be done at Edgewater.

*** Coal Tech Corp.**

This project will be a 1,000 hour test to demonstrate the performance of an advanced, air-cooled, cyclone combustor with dry pulverized coal. Two Pennsylvania bituminous coals and one Utah sub-bituminus coal will be burned to demonstrate that the combustor is capable of burning a variety of U.S. coals in an environmentally acceptable manner. A 30 million BTU/hour (1 ton/hr) combustor is under construction in Williamsport, Pennsylvania.

*** Energy and Environmental Research Corp.**

The corporation intends to demonstrate a combination of gas reburning and sorbent injection for the control of $SO_2$ and NOx emissions. Three sites have been selected, representing the three major firing configurations. They will be located at: Henne-

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# Sierra Pacific plans 2,000 MW energy park in N.E. Nevada

RENO, NV—Preliminary work has begun on the environmental permitting and engineering for a 2,000 MW energy park to be operated by Sierra Pacific Resources in northeastern Nevada.

Corporate Affairs Vice President Dick Hughs told *EL&P* that his company is putting together a joint-venture consortium of non-utility partners that will plan, market and construct the project on land owned by Sierra Pacific.

Called "Thousand Springs," the park will eventually consist of eight, 250 MW coal-fired units that are essentially alike. The total cost of the project is estimated to be $4 billion.

Hughs said power from the project will be sold wholesale to western U.S. utilities. However, he pointed out that no generating units will be built until firm contracts with utilities are signed.

Sierra Pacific hopes to begin building the units, one every two years, beginning in the mid-1990s. But, said Hughs, nothing will be constructed until all the permitting is finished and needed approvals received.

"By mid-1988," he said, "we will know where we stand."

The company has already met with several western utilities and determined that a market exists for selling the power.

Hughs noted that several legal issues still need to be addressed. Investors are attracted to the project because of its exemption from Nevada regulation. Last year the state legislature approved a bill that would exempt the plant from Nevada Public Service Commission regulation. Only the environmental permitting would have to be approved by the PSC.

He said the Federal Energy Regu-

Continued on page 9

# Private development of federal dam sites ahead?

WASHINGTON—If a group of dedicated public power executives have their way, funds from a private non-profit corporation soon will be used to develop new generating facilities at federal dam sites. The new corporation, a non-profit company called the Public Power Development Corp.(PPDC), has said it will sell bonds to raise $100-million with which to finance the power development.

According to the corporation's administrative officer, Kenneth Holum, retired manager of Western Fuel Associates and a former assistant secretary of the Interior for water and power, the new company will fund power projects where the federal government currently is building or already has facilities to provide water/flood control for municipal, industrial, farm and recreational uses if federal funds for power facilities are not available. PPDC funds for power development would be turned over to the federal government, which then would build the facilities.

Stanley K. Bazant, general manager of Plains Electric Generation and Transmission Cooperative in New Mexico and one of the organizers with Holum, is PPDC chairman. Other organizers include Donald R. Allen, a Washington, D.C. attorney and James L.Grahl, retired general manager of Basin Electric Cooperative. All the above are directors. Milton A. Chase, a former executive with the Rural Electrification Administration and the Cooperative Finance Corporation, also will serve as a director.

### Bonds may be taxable

The company will seek to finance its projects with tax-exempt bonds, although it's financial consultant, Austin Koenen of Shearson-Lehman, has suggested it is more likely that PPDC will have to resort to taxable bonds.

Continued on page 13

# Industry's biggest conference & show opens Sept. 14

BARRINGTON, IL—The Transmission & Distribution Conference and Exposition, sponsored by the Institute of Electrical & Electronic Engineers, will open in Anaheim, CA on September 14, running through September 18. Expected to draw 10,000 electric utility executives and engineers, engineering consultants, constructors and contractors, it is the largest event of its type in the electric utility industry.

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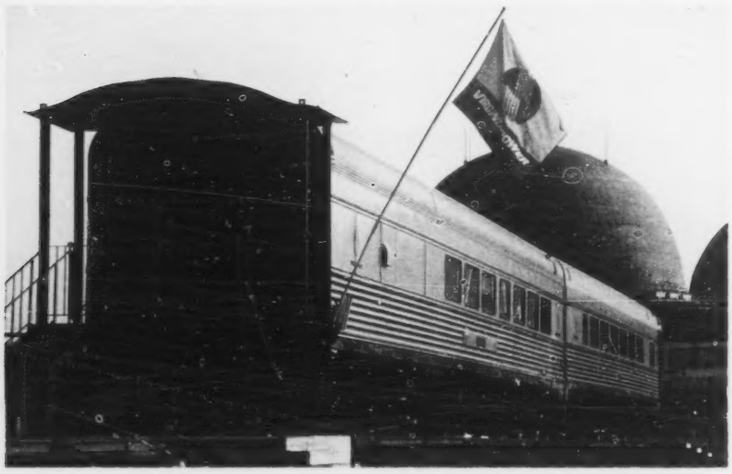
# News Briefs

JILL MINNER, Editorial Assistant

### BPA issues electric loads forecast through 2006

● The Bonneville Power Administration has issued its electric load forecast for 1986 through 2006. The low case anticipates a 0.3 percent decline per year in load growth, with a 15,100 MW load by 2006. A growth rate of 2.7 percent per year is predicted for the high case, with a load in 2006 of about 28,600 MW. The medium case results in a rate of growth of 1.2 percent per year, down from 1.3 percent as of a year ago. According to the forecast, regional loads under the medium case are expected to grow from about 16,600 MW today to about 20,600 MW by the year 2006. The medium case projects an increase in the number of people living in the Pacific Northwest from the present total of 8.4 million to 10.7 million, putting the population growth rate at 1.2 percent. This compares, said BPA, with an anticipated national growth rate of 0.8 percent.

## *Cafeteria at VA nuclear power station features nostalgic dining*



Two refurbished locomotive dining cars serve as a cafeteria for the 600 employees at Virginia Power Co.'s North Anna Power Station. "It was less expensive than building a cafeteria and certainly is in a class by itself," said William L. Stewart, vice president-nuclear operations for Virginia Power. To add to the nostalgia, waiters dress as old-time conductors complete with gold pocket watches. "This is the most unique [cafeteria] in the county," said Station Manager Wayne Harrell, "or at least at a nuclear power station."

### Canadian utilities better off without gov't interference: Norrie

● Speaking at the Canadian Electrical Association's annual meeting, Winnipeg Mayor William Norrie said that Canadian utilities are best run with a minimum of government interference. "I think there's a real danger in the politization of our electric utilities and that seems to me to be going against the best interest of the utilities." Norrie feels that utilities should be run by those who know the industry best, and that while the experience of having them operate in a mixed economy has been favorable, that is changing. "We've been very fortunate at the City of Winnipeg. We've had a very efficiently run, well organized department. I think that is probably because the politicians of the City seem to keep their hands off the hydroelectric system," said Norrie.

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EL&P readers whose responsibilities include both Generation and Transmission/Distribution receive both technology sections. Other readers receive the technology section that applies to their respective area of responsibility. The Generation edition is indicated by a single dot (•) in the upper right corner of page 1; the T/D edition carries two dots (••). All readers receive EL&P's industry news section.

### Insurance pools refund $4 million to nuclear plant operators

● As part of the Industry Credit Rating Plan, two nuclear insurance pools, American Nuclear Insurers (ANI) and Mutual Atomic Energy Liability Underwriters, have refunded a total of more than $4.2 million in insurance premiums to nuclear power plant operators, according to the Insurance Information Institute. ANI President Burt C. Proom said that under the plan, about 70 percent of each year's liability insurance premium is placed in a reserve fund, which is only used to pay claims and claim expenses. According to Proom, the unused portion of the reserve fund is refunded to the policyholder after a ten-year period.

### Construction audit conducted on Braidwood I nuclear unit

● The Illinois Commerce Commission (ICC) said that O'Brien-Kreitzberg, Inc. has been chosen to conduct a construction audit of Commonwealth Edison's Braidwood I nuclear unit. The construction management company will work in conjunction with engineering advisors and the accounting firm of Ernst & Whinney. The ICC said that the first phase of the audit, which will cost Commonwealth Edison about $1.7 million, is expected to be finished by the end of March. The second phase, according to the ICC, should be done by next July or when construction of the unit is completed. Braidwood I is scheduled to begin power production in mid-1987.

### NRC issues operating license to PSE&G's Hope Creek station

● Public Service Electric and Gas Co. said its Hope Creek generating station has been issued a full power operating license by the Nuclear Regulatory Commission. The utility expects to place Hope Creek in commercial operation by the end of the year. PSE&G has a 95 percent interest in the 1067-MW boiling water reactor, while Atlantic Electric Co. holds the other five percent.

### Con Edison electric bills drop 15 percent in two years

● According to Consolidated Edison, the electric bills of its typical residential customers have dropped about 15 percent over the past two years. The utility cited lower costs for fuel oil and natural gas as the main reason for the decrease. The average New York City customer using 250 kWh monthly, has a $38.59 electric bill, all taxes included. This bill, said Edison, is 7.8 percent less than the $41.87 charged in July 1985 and 15.3 percent less than the level two years ago.

### PSC cuts WP&L revenues by almost $5 million

● The Wisconsin Public Service Commission said it has given preliminary approval of a $5 million revenue reduction for Wisconsin Power & Light Co. (WP&L). The utility had originally requested a $14.4 million increase for its electric, natural gas and water customers. A slight increase of about $700,000 was given for WP&L's natural gas and water rates, according to the PSC. The commission said that a major factor in the reduction was its decision to lower the allowed return on common stock equity from 14.5 percent to 13.5 percent, due to lower interest rates.

### NRC grants VA Power license for dry cask storage

● Virginia Power said it is the first U.S. utility to be issued a license by the Nuclear Regulatory Commission to store spent nuclear fuel above ground in dry storage casks. The company will store the fuel at its Surry power station and said this means it will not have to ship spent fuel assemblies from Surry to the North Anna Power station following a scheduled refueling in October.

## Monticello plant celebrates 15 years of commercial operation

Northern States Power Co. officials accept plaques commemorating 15 years of commercial operation for NSP's Monticello nuclear plant in MN. The 557-MW boiling water reactor has maintained a 72 percent capacity factor while generating 50 billion kW over 15 years, according to the utility. Accepting the plaques are: Charles Larson, vice president-nuclear generation, Dennis Gilberts, senior vice president-power supply and Wayne Shamla, plant manager.

# Multi-billion power plant pipeline emptying fast: UDI

WASHINGTON, D.C.—New plant additions will begin to fall off dramatically beginning in 1988, says the Utility Data Institute.

The not-for-profit information services organization says in a new report that the multi-billion construction pipeline for power plants is rapidly emptying.

In 1988, the report states that the average 20,000 MW per year installation level of new central station plants seen over the last 15 years will drop to 5,000 MW or less through 1996 and beyond.

"We probably have fewer power plants under construction today than at any time in the last 15-20 years," said UDI President Liz Hannon. "Given the fact that it currently takes 5 to 10 years to license and build a new coal or nuclear plant, construction of any additional capacity needed for service in the 90's would need to start soon."

### Latest data

Entitled *Capital Costs of Projected Power Plants*, the report provides the latest cost and schedule data for about 275 coal, nuclear and other power plants representing 125,000 MW of new capacity through 2010 and a total capital investment exceeding $100 billion.

According to the report, the cost per kilowatt of new installed capacity ranges from $750-$2,000 per kW for new coal units and $1,700-$5,500 per net kW for new nuclear units, over the next 10 years.

Between 1986 and 1996, the report states, only 51,000 MWe of new capacity is actually under construction with most of that scheduled to come on-line in 1986 and 1987. An additional 21,000 MW of capacity is planned but not yet under construction.

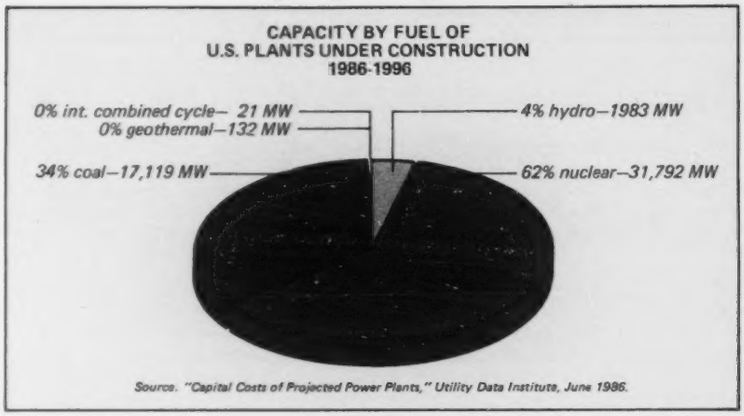
The report found that about two-thirds (62%) of the capacity under construction is represented by 27 large nuclear plants. New coal-fired capacity under construction represents an additional 34% (24 plants); a combination of 24 gas turbines, combined cycle units, hydroelectric plants and geothermal plants combine to provide the remaining four percent.

### Clear trend

Only three coal-fired central station generating plants have been ordered in the last three and one-half years, said UDI. The clear trend has been downsizing, deferral and cancellation of plants that are already in the pipeline, states the report.

UDI's data comes from twice yearly surveys of the electric utility industry, press releases and annual reports.

Copies of the study are available for $150 per copy. For more information, call the Utility Data Institute at (202) 466-3660.


CAPACITY BY FUEL OF
U.S. PLANTS UNDER CONSTRUCTION
1986-1996
0% int. combined cycle– 21 MW
0% geothermal–132 MW
4% hydro–1983 MW
34% coal–17,119 MW
62% nuclear–31,792 MW
Source. "Capital Costs of Projected Power Plants," Utility Data Institute, June 1986.

According to a report from the Utility Data Institute, new plant additions will begin to drop dramatically starting in 1988. The report says that construction of capacity for the 1990's will need to start soon.

# Nuclear accident could cost $15 billion in damages, says GAO

WASHINGTON, D.C.—A catastrophic accident at any of the nation's 117 commercial nuclear reactors could cost between $300 million and $15 billion in off-site and liability damages, according to a report from the General Accounting Office.

If weather conditions were bad at the time of the accident, GAO said the cost could increase by ten times.

A catastrophic accident at a utility near a major city, such as the Indian Point plant near New York, could cause as much as $15 billion in off-site damages.

Sen. George Mitchell (D.ME), who requested the study, is a member of the Environment and Public Works Committee which is drafting nuclear liability legislation. He said the figures are evidence that Congress should significantly improve existing nuclear liability laws.

### Essential

"It is essential that we put in place a system for assuring potential victims that their losses will be covered and that nuclear utilities are held accountable for their actions," said Mitchell in a press conference.

Congress is considering legislation to reauthorize the Price-Anderson Act. Currently, nuclear utilities are liable up to $665 million in case of an accident. The Senate Energy Committee has reported a bill (S. 1225) limiting liability to $2.5 billion. In the House, the Interior Committee's bill (H.R. 3653) would place a limit on liability of $6.5 billion.

GAO estimates that the House version would cover 95 percent of the reactors, while the Senate's bill would cover 64 percent of the utilities.

Said Mitchell, "I have several concerns about these limits on liability in light of the GAO estimates. First, none of the bills or the current law provides for full compensation for victims of a nuclear accident. If we are to continue to use nuclear power, victims must be assured that they will not be the ones to pay for an accident."

According to GAO, a catastrophic accident would involve extensive core damage, failure of all safety features, and a massive, early breach of the containment. A severe accident would be the same, said the agency, except some safety systems would work and the containment breach would not be immediate. The probability of a catastrophic accident is estimated to one-half that of a severe accident.

### Accident probability

At any particular plant, GAO said the estimated probability that a catastrophic accident will occur in a single year is one in 100,000.

If a severe accident were to occur, the report says average costs would range from $5 million to $220 million.

"Chernobyl amply demonstrates the folly of not planning ahead," stated Mitchell, "We know in advance there are risks and we are obliged to do all we can to minimize the burden on potential victims."

Approximately $41 million has been paid in an out-of-court settlement for claims from the Three Mile Island accident in 1979. That was the first test of the Price-Anderson Act. GAO said $14 million went for anticipated indirect health effects; $5 million to monitor the health of residents within 15 miles of the unit; and $22 million for economic losses suffered by individuals. Since this settlement, 2,000 additional personal injury claims have been filed.

### Final report

GAO's report, *Nuclear Regulation—Financial Consequences of a Nuclear Power Plant Accident*, is preliminary. Mitchell said a final report will be released later this year.

# EL&P's traveling trade show to tour eastern utilities in 1987

BARRINGTON, IL—The *EL&P* Caravan, *Electric Light & Power's* traveling trade show, will visit eastern utilities in the Spring of 1987. The Caravan, made up of two tractor-trailer units, will feature the product exhibits of over two-dozen suppliers to the electric utility industry.

The tour will run five- to six-weeks in length through May and June of 1987. This will be *EL&P's* fourth Caravan tour.

The Caravan will tour from Maine to Florida and as far west as the eastern parts of Tennessee and Kentucky. Stops will be scheduled at all major investor-owned electric utilities. Large cooperatives, municipal and other public power organizations, and consulting engineering firms also will be included.

*EL&P* publisher Duke Kiesel announced the new Caravan program, pointing out that the idea of taking the trade show to the viewers is a continuation of *EL&P's* long record of service to the electric utility industry. "The idea was novel when *EL&P* launched its first Caravan in 1970, and it's just as useful and economic to utilities today. Nobody else makes it so easy for utility engineers and operating personnel to learn first-hand about state-of-the-art equipment without major expenditures of time and money."

Each supplier exhibit will be staffed with a representative of the supplier to provide technical information. Product and application literature also will be available.

The *EL&P Caravan* is co-sponsored by Mobile Marketing Services, Inc., Ft. Lauderdale, FL, which will provide additional information upon request. The phone number is (305) 565-9448 or 9449.

The complete schedule of stops will be published in *Electric Light & Power* early in 1987.

# UtiliCorp forms new company to make generating investments

KANSAS CITY—UtiliCorp United formed a subsidiary in July that will enable it to make investments in generating units outside its basic operations.

Also, the company announced that it plans to change its state of incorporation and increase its authorized common shares.

UtiliCorp said its new wholly-owned subsidiary, Energy Investments Inc., will make investments in other utility properties.

"This action enables UtiliCorp to participate in non-operational investments and investment partnerships in base-load generating units outside our basic operations. It further enhances our strategic plan to grow within the regulated utility industry via interstate and intrastate operations," said Richard S. Green, Jr., UtiliCorp CEO and President.

Missouri Public Service, Peoples Natural Gas and Kansas Public Service are divisions of the company. Pending regulatory approval, West Virginia Power will become a fourth division. UtiliCorp also has signed a letter of intent to purchase the Minnesota gas distribution operations of the Inter-City Gas Corporation.

UtiliCorp will ask its shareholders at a special meeting in October to approve a reincorporation of the company in Delaware. It is now incorporated in Missouri.

The company also will ask shareholders to approve an increase in the number of shares of common stock from 15 million to 50 million shares.

Said Green, "The increase in the number of shares will facilitate future financing, acquisitions, stock splits and stock dividends."

## Did You Hear...

"Wall Street investment bankers are giving talks these days about utility takeovers and consolidations. A few years ago, the 'pop' topic at similar seminars was utility bankruptcy. We haven't seen any of those, and it is likely we won't see a wave of the others. What happened with Cleveland Electric Illuminating and Toledo Edison may be a trendy topic but not a trend. Preoccupation with 'shark repellant' to block hostile takeovers appears to be mainly a management conceit."

— Larry Hobart, executive director of the American Public Power Association, speaking before the American Bar Association on Aug. 12, 1986.